leading the way,
creating a roadmap

seattle's sustainable building policy

fyi

INFORMATIONAL SUPPLEMENT FOR DCLU CUSTOMERS

Mitigating the Impact of Building and Development

Buildings and development affect water quality, air quality, and ecosystems, which in turn impact human health and quality of life.

Buildings also have a large economic footprint, representing more than 50 percent of the nation's wealth. In 1993 new construction and renovation activity amounted to approximately $800 billion, or 13 percent of the GDP, and building-related fields employed 10 million people. To remain competitive and continue to expand and produce profits in the future, the building industry is learning to address the environmental and economic consequences of its actions (as shown in the graph at right).

Through careful planning, the adverse impacts of the built environment can be substantially reduced . Some strategies can actually improve degraded environments and increase the comfort and productivity of building occupants.

Sustainable building provides an integrated approach that promotes environmental quality, economic vitality, and social benefit through the design, construction and operation of the built environment.

In 2000, the City of Seattle was the first city in the nation to formally adopt a citywide sustainable building policy. Seattle is now recognized nationally for its bold leadership.

The stated purpose of Seattle's policy on sustainable building is:

- to demonstrate the City's commitment to environmental, economic, and social stewardship,
- to yield cost savings to the City taxpayers through reduced operating costs,
- to provide healthy work environments for staff and visitors, and
- to contribute to the City's goals of protecting, conserving, and enhancing the region's environmental resources.

Seattle's policy calls for new and renovated City projects with over 5,000 SF of occupied space to achieve a Silver Rating using the US Green Building Council's Leadership in Energy and Environmental Design (LEED™) Green Building Rating System (for more information on LEED see page 8). Using a national standard such as LEED helps establish minimum performance levels, creates a common dialogue for discussion, and allows

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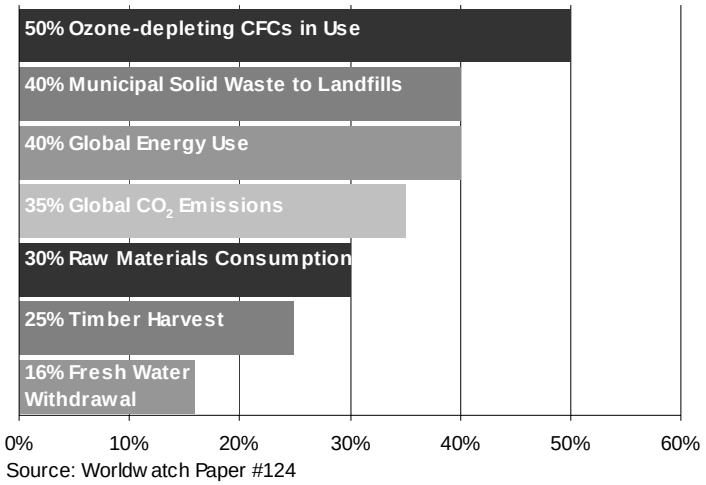
Environmental and Economic Impact of Buildings



Source: Worldwatch Paper #124

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Seattle to measure its building performance relative to other jurisdictions using the same system.

The policy affects all City departments that are involved with building, including DPD. An interdepartmental group of City employees, called the Green Building Team, serves as a coordinating body for implementing the Policy and as resident experts on elements of green building. To facilitate use of LEED by City Capital Improvement Project (CIP) managers and their design teams, the City's Green Building Team authored the "Seattle CIP Supplements." This document provides Seattle-specific information on applying the rating system, directs users to relevant resources, and calls out several additional requirements for City projects. DPD is represented on the Green Team by Lynne Barker, a sustainable development planner.

Currently, the City owns 13 LEED projects, including the Key Tower remodel (see pg. 9). These projects represent over 2.75 million SF of space and are listed online at **www.seattle.gov/sustainablebuilding/cityprojects.htm**

The LEED™ Incentive Program

LEED is a voluntary, consensus-based, market-driven green building rating system developed by the US Green Building Council (USGBC). It is based on existing, proven technology and evaluates environmental performance from a "whole building" perspective. LEED contains prerequisites and criteria in the following categories:

- sustainable sites
- water efficiency
- energy & atmosphere
- materials & resources
- indoor environmental quality
- process & innovation

The four rating levels include Certified, Silver, Gold, and Platinum.

Seattle City Light and Seattle Public Utilities have combined funding to create the LEED Incentive Program, which offers financial assistance to public and private sector projects incorporating sustainable building goals early in building programming and when making design decisions. Eligible projects must have a $5,000,000 minimum construction budget and be committed to achieving a LEED "Certified" rating. To find out more about the LEED Incentive Program, visit **www.seattle.gov/sustainablebuilding/incentives.**

"In our every deliberation, we must consider the impact of our decisions on the next seven generations."

—from the Great Law of the Iroquois Confederacy

Future Vision

The long-term vision is to think of the City's built works as a Sustainable Capital Investment Portfolio, with investments that yield profits over time. This portfolio would include the entire range of the built environment: buildings, rights of way, and parks.

On the grand scale, we can envision Seattle as a model sustainable community where both the public and private sector create a built environment with benefit for current and future generations in mind. Realizing this vision will require further action in many areas in which the City is already involved—global climate change, transportation planning, salmon recovery, local economic development, affordable housing, neighborhood programs, and sustainable building. For more information, visit **www.seattle.gov/dpd/sustainability** and **www.seattle.gov/sustainablebuilding.**

sustainability in Seattle timeline

1977 — City initiates **ENERGY CONSERVATION**, implemented by Seattle City Light.

1979 — City launches **WATER CONSERVATION**, implemented by Seattle Water Department.

1987 — UN World Commission on Environment & Development releases, *Our Common Future*, **DEFINING SUSTAINABLE DEVELOPMENT** as "meets the needs of the present without endangering the ability of future generations to meet their own needs."

1988 — City develops Comprehensive Drainage Plan to **PROTECT SURFACE WATER QUALITY**.

Key Tower Remodel: A City LEED Project

Key Tower*, the future home of nearly 70 percent of the City's downtown workforce, has been undergoing a floor-by-floor renovation since 2000. This remodel includes an extensive reworking of the entrance to facilitate accessibility, create open space landscaped with native plants, and tie the project in with the Civic Center. The Civic Center is being designed to centralize access to as many public services as possible.

key tower

—part of the new Civic Center

—located at 700 Fifth Avenue

—remodel designed to achieve a LEED Silver Rating

In line with the City's Sustainable Building Policy, the Key Tower Remodel, has been designed to achieve a LEED Silver Rating. The Design Team's primary goals include:

- reducing total energy consumption
- enhancing building occupant's quality of life with natural daylight and views, better thermal comfort, and good indoor air quality
- salvaging and reusing existing building materials wherever possible
- selecting recycled-content and rapidly renewable materials

Energy Consumption Being Minimized

Systems & Controls. The existing heating and air conditioning system will be retrofitted with a new Direct Digital Controls (DDC) system to monitor building systems, control space heating and cooling equipment during occupied periods, and restrict use during unoccupied periods. The building will be commissioned to ensure that the building systems perform interactively at optimum efficiency. Estimated savings of 467,000 kWh (or $27,093 per year) qualified the retrofit for the Seattle City Light energy savings incentive program.

**Key Tower is now known as Seattle Municipal Tower*

See **fyi: key tower remodel** *on page 4*

1992 City Council adopts City-wide **ENVIRONMENTAL ACTION AGENDA**, embracing sustainability as one of 11 guiding principles.

1992 UN Earth Summit results in *Agenda 21*, a **GLOBAL SUSTAINABLE DEVELOPMENT ACTION PLAN**.

1993 City Council adopts "**COMPREHENSIVE PLAN FOR GROWTH MANAGEMENT**," *Toward a Sustainable Seattle*, establishing four core values: economic opportunity, environmental stewardship, community, and social equity.

1993 Non-profit *Sustainable Seattle* publishes first, "**INDICATORS OF SUSTAINABLE COMMUNITY**."

1994 Establishment of the office currently known as the **OFFICE OF SUSTAINABILITY AND ENVIRONMENT** to promote the principles and practices of sustainability within city government, and in the community and region.

1998 **SUSTAINABLE BUILDING ACTION PLAN -** City and private sector representatives recommend action items for sustainable building in Seattle, including City Sustainable Building Policy.

1999 **SEATTLE MUNICIPAL CIVIC CENTER ACTION PLAN** - "Sustainability should be clearly visible in the design... and celebrated as a core value to the community."

2000 City Council and Mayor adopt **SUSTAINABLE BUILDING POLICY** – calls for new and renovated City-owned properties over 5000 S.F. of occupied space to achieve a LEED™ Silver Rating.

2001 **10** City building projects committed to LEED™ Silver.

2002 City's Sustainable Building Program is **AWARDED A STOCKHOLM PARTNER PROJECT** by the Stockholm Partnerships for Sustainable Cities.

13 City projects committed to LEED™ Silver.

recycled fabrics

recycled carpet

"The City Conference Center is a fine example of our sustainable building policy. It demonstrates that recycled and renewable materials can be beautiful as well as good for the environment and it illustrates that sustainable design is mainly about creating good design."

—Councilmember Peter Steinbrueck

bamboo wall panels

tree-free wall covering

low VOC paints

fyi: key tower remodel, *cont. from page 3*

Lighting. The Design Team has developed three core strategies for lighting: 1) Installing automatic nighttime shutoff between 6 p.m. and 6 a.m. 2) Installing motion driven occupancy sensors in rooms with occasional use that automatically turn lights off when the room is empty. 3) Placing the lighting fixtures located within the first 15 feet of the building perimeter on separate controls to allow lights in the perimeter zone to be turned off when natural daylight is sufficient.

Additional details on energy saving activities included in the Key Tower remodel will be featured in the June issue of *dcluINFO*.

Conference Center Showcases Green Building Materials

The City has created a conference center and public gathering space on the 40th floor of Key Tower. This high-traffic area is an ideal site to showcase the use of green building materials planned for the Key Tower remodel. Some of the products and materials featured in the City Conference Center are:

- Wall panels, shelves and conference tables made from bamboo. Bamboo is harvested every four years. It is hailed by some as an alternative to wood because of its durability, strength, and rapid growth—and because it does not need replanting after harvesting.
- Straw board, made from waste wheat straw, used as the substrate for casework. Straw board uses non-toxic isocyanurate resins (MDI) and has superior properties of moisture swell, elasticity, internal bond, density, and strength.
- Tree-free wall-covering made of rice paper with 50 % recycled newspaper content. It does not use any pigments containing heavy metals, lead or cadmium as stabilizers; contains no fluorocarbons, solvents treated with chlorine, or volatile softeners; and does not emit any vinyl chloride. It can be composted at the end of its useful life.
- Fabrics covering the chairs are made from recycled post-consumer and post-industrial plastics such as soda bottles, post-industrial seconds, and x-ray film. Because this product is made of a single fiber type, it is also easily recycled at the end of its useful life.
- Most of the carpet used contains 25% recycled nylon, reclaimed from old carpets. The carpet backing contains 50% recycled thermoplastic. Both are 100% recyclable; at the end of their useful life the manufacturer will take back their product, recycling into new carpet and backing.
- Paints selected to provide a healthier indoor air quality for the occupants, which meet standards for low or no-VOC (volatile organic compounds). Paints are a source of indoor air pollution, emitting VOCs and often containing toxic substances. VOCs are chemicals that evaporate into the air and affect the ozone layer. They are also linked to a variety of human health problems.
- Existing materials on the 40th floor were viewed as materials that could be salvaged and reused rather than thrown away as waste. This approach resulted in the reuse of: 100% window blinds, 100% ceiling tiles, 90% doors, 90% lighting, 60% HVAC equipment, 25% walls. In addition, 5% of the materials used were salvaged from other projects in the building.

To learn more about the Key Tower remodel, visit the City's Sustainable Building website at **www.seattle.gov/sustainablebuilding/cityprojects.htm.**

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